

Work Order ID 157195***157195***

Page 1

Tuesday, February 21, 2017 7:45:44 AM

Item ID: D2896-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Support

Start Date: 2/3/2017

Start Qty: 5.00

5

Cust Item ID:

Required Date: 2/17/2017

Req'd Qty: 5.00

5

Customer:

Reference:

DAS

21

9-89

Approvals:

Process Plan:

Date FEB 21 2017

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2896

C

100

0.04

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

1.87

HAAS CNC vertical machine #1

Machine as per Folio FA167

Folio Rev: CDwg Rev: C

Deburr

****Program Batch #*****

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

DAS

33

9-89

11/03/10

DAS

44

9-89

17-03-12

DAS

44

9-89

17-03-12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
3AC 3B 3LP								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : _____									

Work Order ID 157195

Tuesday, February 21, 2017 7:45:44 AM

157195

Page 2

Item ID: D2896-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Support

Start Date: 2/3/2017 Start Qty: 5.00

5

Cust Item ID:

Required Date: 2/17/2017 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.02

Quality Control

DAS
14
9-89

17/03/15

130

Identify as per dwg & Stock Location: LG051

0.00

130

Packaging

Memo

0.01

Packaging

LOCATION : LG051

6

17/03/15

MAR 15 2017

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.08

Quality Control

17/3/16

DAS
21
9-89

MAR 16 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
2AG BT 20-9								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Picklist Print

Tuesday, February 21, 2017 7:45:47 AM

Page 1

Work Order ID: 157195

157195

Parent Item: D2896-1

D2896-1

Parent Item Name: Support

Start Date: 2/3/2017

Required Date: 2/17/2017

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP: B02.11.26Reformat; Added P/O; Added mask holeKJ
IPP Rev:C As per Rev B 07-04-16 JLM
IPP D 08.03.19 Re-format EC verified by DD
11.10.03 ASPER REV.C DD VERF:EC

IPP REV:E

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
DSK080		Manufactured	No			100	Each	6.0000	0.5	3			
DSK080									**			DAS 33 9-89	
D2896-1 Turning Detail												17103/09	

Location

Loc Qty

Loc Code

MAT060

6

145622

1

149288

5

1

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DART AEROSPACE LTD		Work Order: 157195
Description: Support		Part Number: D2896-1
Inspection Dwg: D2896	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	2.152	2.172		2.163	2.163	2.163	2.163	2.163
AB	2.340	2.360		2.354	2.356	2.354	2.355	2.355
AC	3.550	3.560		3.557	3.558	3.555	3.555	3.555
AD	3.770	3.790		3.779	3.779	3.775	3.775	3.775
AE	0.065 x 0.315	0.085 x 0.335		0.075 x .328	0.075 x .325	0.075 x .320	0.075 x .320	0.075 x .320
AF	1.42	1.48		1.45	1.45	1.45	1.45	1.45
AG	0.833	0.853		.847	.845	.847	.845	.846
AH	0.240	0.260		.250	.250	.250	.250	.250
AI	0.261	0.266		.261	.261	.261	.261	.261
AJ	0.189	0.194		.190	.190	.190	.190	.190
AK	1.970	2.030		2.001	2.001	2.003	2.003	2.004
AL	0.625	0.630		.625	.625	.625	.625	.625
AM	101.75	105.75		103.75	103.75	103.75	103.75	103.75
AN	0.053	0.073		.063	.063	.063	.063	.063
AO	0.926	0.946		.942	.934	.938	.939	.940
AP								
AQ								
AR								
Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"								
Accept/Reject				.003	.001	.001	.0005	.0005

Measured by: DAS 44 9-89	Date: 13-03-11
Audited by: DAS 14 9-89	Date: 17/03/15
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	
F	12.07.31	Dimensions updated per Dwg Rev C	KJ	

DART AEROSPACE LTD		Work Order: 157195
Description: Support		Part Number: D2896-1
Inspection Dwg: D2896	Rev: C	Page 1 of 1

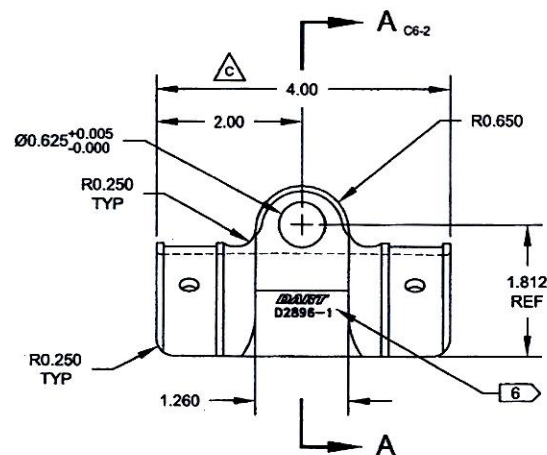
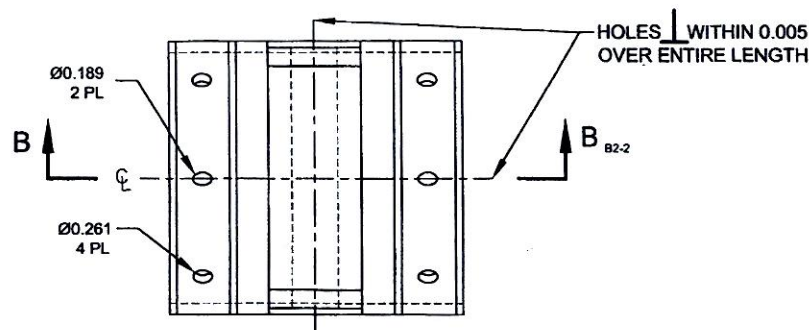
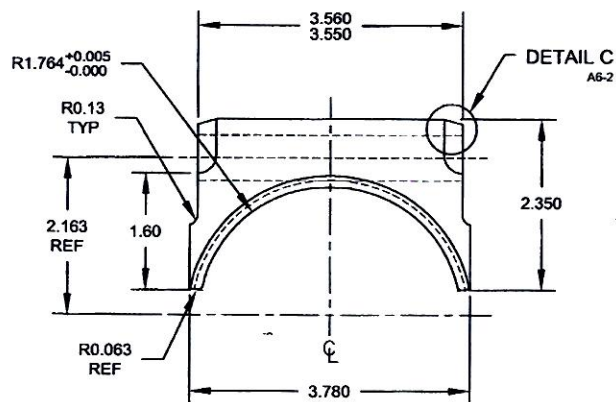
FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				6	2	3	4	5
HAAS Section								
AA	2.152	2.172		2.163				
AB	2.340	2.360		2.355				
AC	3.550	3.560		3.555				
AD	3.770	3.790		3.775				
AE	0.065 x 0.315	0.085 x 0.335		.075 x .320				
AF	1.42	1.48		1.45				
AG	0.833	0.853		.845				
AH	0.240	0.260		.250				
AI	0.261	0.266		.261				
AJ	0.189	0.194		.190				
AK	1.970	2.030		2.004				
AL	0.625	0.630		.625				
AM	101.75	105.75		103.75				
AN	0.053	0.073		.063				
AO	0.926	0.946		.939				
AP								
AQ								
AR								
Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"								
Accept/Reject				-007				

Measured by:	DAS 44 9-89	Date:	17-03-12
Audited by:	DAS 14 9-89	Date:	17/03/15
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	
F	12.07.31	Dimensions updated per Dwg Rev C	KJ	

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 157195 MJS
17-02-21



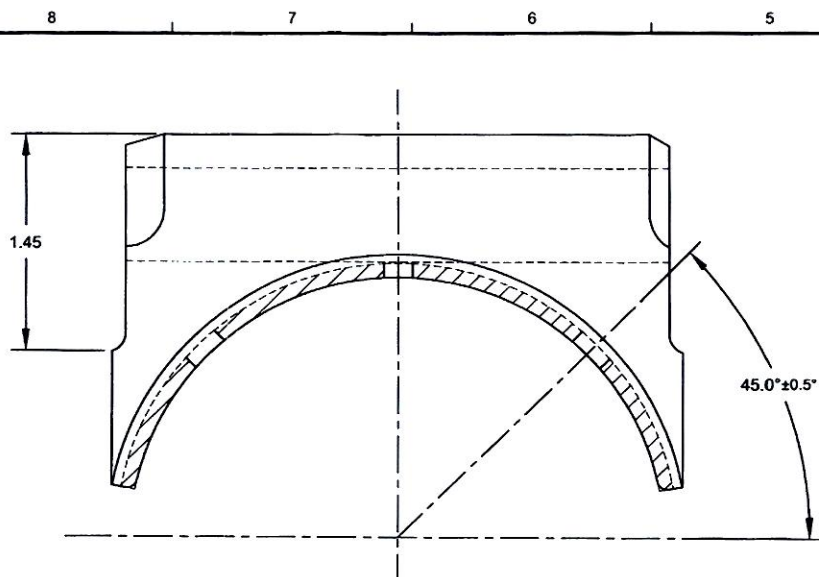
D2896-1 SUPPORT

RELEASED
2011-09-29

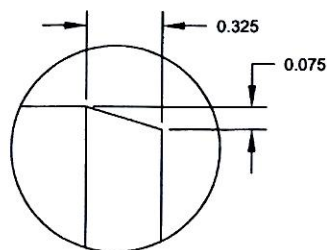
NOTES:

- 1) MATERIAL: 17-4 PH STAINLESS STEEL, H900 OR H925 CONDITION
PER ASTM A564 OR AMS 5643 OR AISI 630
MIN UTS = 170 KSI (38 HRC)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO AND P/N WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP PER DART QSI 044 6.3
- 7) WEIGHT: 1.76 lbs

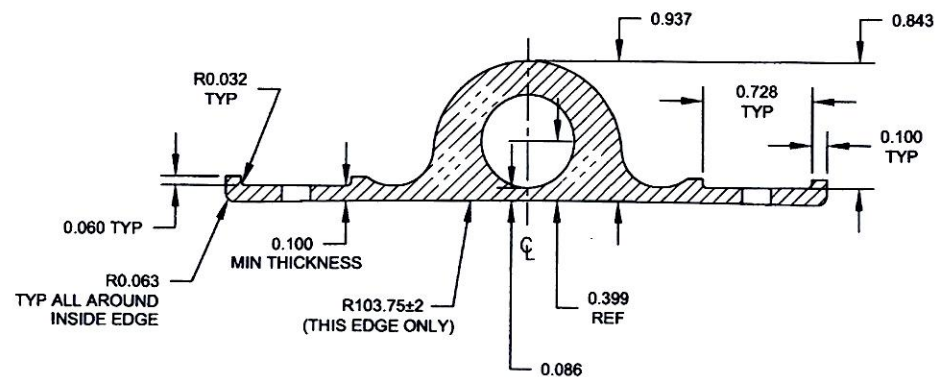
C	RMV FINISH & UPDATE MAT'L SPEC (A8-1), 2.00 WAS 2.000, 4.00 WAS 4.000 (C4-1), REFORMAT DWG	CP	11.09.07
B	INCCORP. A1-A4, FINISHING NOTES	PH	07.03.19
A	NEW ISSUE	CP	01.10.19
DESIGN	JP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2896 REV. C SHEET 1 OF 2 TITLE SUPPORT SCALE NTS COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	JP		
CHECKED	ASS		
MFG. APPR.	JP		
APPROVED	JP		
DE APPR.	JP	DATE 11.09.07	



SECTION A-A C3-1
TOOLING HOLE DETAIL
SCALE 2X



DETAIL C C6-1
SCALE 4X



SECTION B-B D3-1
SCALE 2X

RELEASED
2011-09-29

DESIGN	gp	DART AEROSPACE LTD	
DRAWN	gp	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AS	DRAWING NO.	REV. C
MFG. APPR.	AS	D2896	SHEET 2 OF 2
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	SUPPORT	NTS
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